

RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2617
Docket No.: 2080.1132 (formerly 1454.1716)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Hui CHEN et al.

Serial No. 10/577,670

Group Art Unit: 2617

Confirmation No. 8871

Filed: December 29, 2006

Examiner: Joseph E. DEAN, Jr.

For: METHOD FOR DETERMINING A PATH IN A LOCAL RADIO COMMUNICATION

AMENDMENT AFTER FINAL REJECTION

Attention: Mailstop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action mailed August 31, 2011, and having a period for response set to expire on November 30, 2011.

The following amendments and remarks are respectfully submitted. Reconsideration of the claims is respectfully requested.

A Request for Continued Examination (RCE) accompanies this Amendment.

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 20-22 in accordance with the following:

1-11. (CANCELLED)

12. (PREVIOUSLY PRESENTED) A method for operating a radio communication system with a radio access point and a plurality of radio stations including a terminal radio station, said method comprising:

providing, path information about a path formed of at least one further radio station of the plurality of radio stations usable for a message transfer between the radio access point and the terminal radio station, to the radio access point responsive to a requirement from the radio access point prior to the message transfer;

learning, at the terminal radio station, about the requirement for the path information that was initiated at the radio access point, said terminal radio station located outside of direct radio transmission range of the radio access point; and

initiating at the terminal radio station a method for determining a path between the terminal radio station and the radio access point to fulfill the requirement initiated by the radio access point.

13. (PREVIOUSLY PRESENTED) The method as claimed in claim 12, wherein the radio communication system includes a base station located inside the direct radio transmission range of the radio access point and the terminal radio station is located within a radio coverage area of the base station,

wherein said method further comprises notifying the base station by the radio access point about the requirement for the path information, and

wherein said learning by the terminal radio station about the requirement for the path information is a result of a notification by the base station.

14. (PREVIOUSLY PRESENTED) The method as claimed in claim 12, wherein a known path between the terminal radio station and the radio access point formed of at least one further radio station is known to the terminal radio station and the radio access point, enabling data to be transferred from the terminal radio station to the radio access point and from the radio access point to the terminal radio station via the path, and

wherein said method further comprises

receiving, at the radio access point, failure information about failure of the known path from a radio station of the path;

learning at the terminal radio station about the failure of the known path after the radio access point learns about the failure; and

initiating, at the terminal radio station, a method for determining a new path between the terminal radio station and the radio access point.

15. (PREVIOUSLY PRESENTED) The method as claimed in claim 14, wherein said learning about the failure of the known path at the radio access point results from information received in response to sending data from the radio access point to the terminal radio station.

16. (PREVIOUSLY PRESENTED) The method as claimed in claim 14, wherein said method further comprises sending test data for the radio access point from the terminal radio station to determine whether the failure exists in the known path.

17. (PREVIOUSLY PRESENTED) The method as claimed in claim 16, wherein said sending of the test data takes place at regular time intervals.

18. (PREVIOUSLY PRESENTED) The method as claimed in claim 16, wherein said learning about the failure of the known path at the terminal radio station results from said sending of the test data to determine whether the failure exists in the known path.

19. (PREVIOUSLY PRESENTED) The method as claimed in claim 16, wherein said sending of the test data by the terminal radio station to determine whether the failure exists in the known path results from at least one notification sent as a result of a preceding determination of the known path.

20. (CURRENTLY AMENDED) A first radio station for a radio communication system, the radio communication system comprising a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising:

means for providing, path information about a path formed of at least one further radio station of a plurality of radio stations, the at least one further radio station located within a radio coverage area of the radio access point, usable for a message transfer between the radio access point and the first radio station, to the radio access point responsive to a requirement from the radio access point prior to the message transfer;

means for receiving a notification that the radio access point initiated a requirement for information about a path, the path formed of at least one of the second radio stations that can be used for a message transfer between the radio access point and said first radio station; and

means for initiating a method for determining a path between said first radio station and the radio access point following reception of the notification that the radio access point initiated the requirement for information, where the path is determined responsive to the requirement prior to the message transfer.

21. (CURRENTLY AMENDED) A first radio station for a radio communication system, the radio communication system formed of a radio access point and at least one second radio station in addition to the first radio station, the first radio station comprising:

means for providing, path information about a path formed of at least one further radio station of a plurality of radio stations, the at least one further radio station located within a radio coverage area of the radio access point, usable for a message transfer between the radio access point and the first radio station, to the radio access point responsive to a requirement from the radio access point prior to the message transfer;

means for storing a path between said first radio station and the radio access point, where the path is formed of at least one of the second radio stations and enabling data to be transferred from said first radio station to the radio access point and from the radio access point to said first radio station via the path;

means for sending test data for the radio access point to determine whether a failure of the path exists;

means for receiving and processing failure information about presence of a failure of the stored path, said storing of the path being prior to the processing failure information; and

means for initiating a method to determine a new path between said first radio station and the radio access point following reception of the failure information.

22. (CURRENTLY AMENDED) A nontransitory computer readable medium storing instructions that when executed control at least one processor in a first radio station to perform a method comprising:

storing a path between the first radio station and a radio access point, where the path includes at least one second radio station located within a radio coverage area of the radio access point, and enabling data to be transferred from the first radio station to the radio access point and from the radio access point to the first radio station via the path;

sending test data for the radio access point to determine whether a failure of the path exists;

receiving and processing failure information about presence of a failure of the stored path, said storing of the path being prior to the processing failure information; and

initiating a method to determine a new path between the first radio station and the radio access point following reception of the failure information.

REMARKS

The Office Action rejected claims 20-22. Claims 1-11 remain cancelled without prejudice or disclaimer. Claims 12-19 are allowed. Claims 20-22 are amended herein. No new matter is presented. Thus, claims 20-22 are pending and under consideration. Reconsideration is respectfully requested. The rejections are traversed below.

ALLOWABLE SUBJECT MATTER:

Claims 12-19 are allowed over the prior cited references.

CLAIM REJECTIONS UNDER 35 USC §102:

The Office Action rejected claim 22 under 35 U.S.C. §102(a) as being unpatentable over US Patent Application No. 2003/0156558 (Cromer). Claim 22 is an independent claim. The rejections are traversed below.

Amended claim 22 recites:

"...storing a path between the first radio station and a radio access point, where the path includes at least one second radio station located within a radio coverage area of the radio access point, and enabling data to be transferred from the first radio station to the radio access point and from the radio access point to the first radio station via the path."

The Applicants respectfully submit that none of the cited references disclose or suggest at least this feature of claim 22, for example, "where the path includes at least one second radio station located within a radio coverage area of the radio access point." Cromer teaches away from this element as Cromer discusses "remote association with an access point that is out-of-range for communication with the radio device of the remote mobile unit" (referenced in the Abstract and column 4; lines 22-26).

Further, Larsen fails to add to the teachings of Cromer with respect to at least this claimed feature as recited above. Larsen references ad hoc routing which does not incorporate access points (see Abstract of Larsen).

Therefore, as the cited references fail to disclose at least one feature as recited in claims 22, the Applicants respectfully request that the rejection to claim 22 be withdrawn and claim 22 allowed.

CLAIM REJECTIONS UNDER 35 USC §103:

The Office Action rejected claims 20-21 under 35 U.S.C. §103(a) as being unpatentable over Cromer in view of U.S. Patent Application No. 2001/0036810 (Larsen).

Amended claims 20 and 21 are both independent claims. Independent claims 20 and 21 emphasize features similar to the discussed features of claim 22 described above and thus similarly distinguish from the cited references.

Therefore, the Applicants respectfully request that the rejection to claims 20 and 21 be withdrawn and the pending claims allowed.

Furthermore, claim 20 recites:

"means for receiving a notification that the radio access point initiated a requirement for information about a path, the path formed of at least one of the second radio stations that can be used for a message transfer between the radio access point and said first radio station."

The Applicants respectfully submit that none of the cited references disclose or suggest at least this feature of claim 20. The Office Action referenced paragraph [0058] of Cromer as discussing this feature. However, while Cromer discusses a "mobile unit (MU) requesting frames to attempt to gain access to another MU through an access point (AP), it does not reference a "notification" that an access point initiated a request for information about a path as taught by the claimed invention. The Office Action stated that it is "well known in the art" that "when a mobile device is turned on it receives messages from an access point."

Applicants respectfully traverse the Examiner's statement regarding the well-known assertion because supporting evidence related to the configuration and functionality of the "means for receiving a notification" has not been provided, and request that the Examiner produce authority for the statement. Applicants also submit that any fact so noticed should serve only to "fill in the gaps" in an insubstantial manner which might exist in the evidentiary showing made by the Examiner to support a particular ground for rejection. In this case, it is not appropriate to assert a well-known rejection without evidentiary support in the record.

Larsen does not add to the teachings of Cromer with respect to this claimed feature.

Therefore, none of the cited references disclose at least this feature as claimed in claim 20.

Moreover, the Applicants respectfully submit that there is no motivation to combine the cited references. The Office Action stated that the combination of the references would be obvious to provide "packet transfer between mobile units outside AP range, where notifications are broadcast from mobile units inside a range of the AP, to mobile units outside the range where data can be sent to the AP from non-associated mobile units."

However, Cromer and Larsen present strikingly dissimilar networking solutions. For example, Cromer recites a network infrastructure including an access point whereas Larsen references ad hoc networking.

More specifically, Cromer is directed to finding a path from a remote mobile unit to an access point which is part of a radio network. The remote mobile unit is located beyond the range of the access point (see paragraph [0001]).

Distinguishably, Larsen does not care about an entity of the network being part of the path (paragraph [0006]). The base stations (entity of a network) provide information about channels that can be used by the mobile stations. For the determination of the path in Larsen, the base stations are irrelevant. Further, Cromer makes no mention information about the channels that can be used by the mobile stations (as discussed in Larsen).

Absent improper hindsight in light of the present claimed invention, the teachings of Larsen would not benefit the operation of the system and methods taught by Cromer.

Therefore, as there is no requisite motivation to combine the references cited by the Office Action, the Applicants respectfully request the withdrawal of the §103 rejections.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

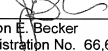
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: 11/29/11

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